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MORTALITY RATES BY OCCUPATIONAL CLASS IN THE UNITED STATES

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I

In a group of 10 States for which data are now available,¹ mortality rates among male industrial and equivalent workers are greatly in excess of those in the higher economic classes (professional and business). These differences are noted among young adults as well as in the older ages, and, taken broadly, appear to be associated with complex social, economic, and racial distinctions as well as with specific occupational disease hazards. The causes of death showing the greatest excess are tuberculosis of the respiratory system, pneumonia, and accidents, with marked differences also for nephritis, cancer, and diseases of the heart. That mortality in England varies with social class has long been recognized; but, now that some estimate of this kind is possible in the United States, it is found that such differences are more marked than in England. If the ratio of American mortality to English for the higher economic classes is taken as 100, the corresponding ratios for the other classes may be estimated as follows: Skilled labor, 112; semiskilled, 123; unskilled, 140. Explanation of these ratios will be given later (see p. 1108); but they appear to represent a minimum statement of the differences. It would be comforting to explain this estimated excess of 40 percent for unskilled labor in this country over the corresponding group in England as due to "racial factors." Although only one strictly Southern State (Alabama) is included, no doubt high negro mortality in large northern cities plays some part. In spite of 20 years of rigorous limitation of immigration, this factor remains of some importance, but it may seem now to serve rather as an explanation than as a justification. Furthermore, it is not race *per se*, but the economic or social factors associated with racial differences that are responsible.

¹ Death Rates by Occupation, Based on Data of the United States Census Bureau, 1930. Edited by Jeessamine S. Whitney. Published by National Tuberculosis Association. The 10 States are Alabama, Connecticut, Illinois, Kansas, Massachusetts, Minnesota, New Jersey, New York, Ohio, and Wisconsin.

Whatever the causes—and their complexity is recognized—the excess in the lower economic levels offers a challenge of the first order to health authorities.²

II

In the study referred to above, deaths occurring in 10 States in 1930 were tabulated by occupation and rates were calculated on the basis of the census occupational classification of the same year. Our interest lies at present in the differential rates when grouped by economic class in accordance with Edwards' classification.³ In table 1 are given the adjusted mortality rates for the six occupational classes, ages 15-64. If we disregard the agricultural workers, who form a unique class with respect to mortality, the rates vary from 7.0 in the professional group to 13.1 in the unskilled labor group—an increase of 87 percent.

TABLE 1.—Adjusted¹ mortality rates, males, 15-64 years of age, in 10 States,² 1930, according to occupational class

Occupational group	Rate per 1,000	Population	Deaths
Professional men.....	7.0	636,608	4,428
Proprietors, managers, and officials.....	7.4	1,426,425	12,440
Clerks and kindred workers.....	7.4	2,216,477	13,793
Skilled workers and foremen.....	8.1	2,725,992	23,282
Semiskilled workers.....	9.9	2,543,762	22,281
Unskilled workers.....	13.1	2,455,773	32,248
All gainfully occupied males.....	8.7	14,013,367	121,951
Agricultural workers.....	6.2	2,003,330	13,479

¹ Adjusted to distribution of all gainfully occupied males in three age groups, 15-24, 25-44, 45-64.

² Alabama, Connecticut, Illinois, Kansas, Massachusetts, Minnesota, New Jersey, New York, Ohio, and Wisconsin.

In table 2 the corresponding specific death rates are presented, with the ratio to all gainfully occupied for the particular age group. It will be seen that the tendencies are present in all three age groups, including the group from 15 to 24 years of age.

³ Although no adequate determination by occupational class has previously been practicable for the general population, the differential mortality is of course not a new phenomenon. Some estimate is possible for 1900 in the few States included in the registration area at that time. If we take professional, clerical and official, and mercantile and trade as representing an upper class (made up of 20.4 percent of the occupied male population, 15-64 years of age) and laboring and servant as representing the lowest class (14.5 percent), we have the following mortality rates by age, all causes (per 1,000): 15-24, 5.1 against 7.7; 25-44, 8.4 against 13.9; 45-64, 20.1 against 31.9, the three ratios being, respectively, 151, 165, and 159. Since registration of deaths was incomplete, especially in the lower classes, these figures do not express the full force of the difference.

⁴ Edwards, Alba M.: A Social-Economic Grouping of the Gainful Workers of the United States. Jour. Am. Stat. Assoc., Vol. 28, No. 184, December 1933.

TABLE 2.—*Mortality rates, males, in 3 age groups, in 10 States, 1930, according to occupational class*

Occupational group	Death rate per 1,000			Ratio to all gainfully occupied		
	15-24	25-44	45-64	15-24	25-44	45-64
Professional men.....	2.26	3.47	16.25	72	63	91
Proprietors, managers, and officials.....	3.11	4.15	15.78	99	76	88
Clerks and kindred workers.....	2.30	4.11	16.46	73	75	92
Skilled workers and foremen.....	3.05	4.87	17.11	97	89	95
Semiskilled.....	3.18	6.12	20.76	101	111	116
Unskilled.....	4.68	9.58	24.78	149	174	138
All gainfully occupied males.....	3.15	5.50	17.93	100	100	100
Agricultural workers.....	2.75	3.82	12.62

In table 3 the rates for the major specific causes⁴ are shown for each of the six occupational groups, the rates being adjusted for age differences. There are also given the ratios of the rates in any one occupational group to the rate for all, these ratios being graphed in figure 1. It is evident that the causes of death which show the closest correlation with occupational status are tuberculosis of the respiratory system, pneumonia, and accidents. However, nephritis, cancer, diseases of the heart, and miscellaneous causes are a factor. Indeed, it is interesting to note that, comparing unskilled with professional, whereas tuberculosis of the respiratory system, pneumonia, and accidents give an excess of 293 per 100,000, other causes make up an excess of 484.

TABLE 3.—*Adjusted mortality rates by cause for different occupational classes, 10 States, 1930, with ratio to rate for all gainfully occupied*

Occupational group	All causes	Diseases of the heart	Tuberculosis of the respiratory system	Cancer and other malignant tumors	Pneumonia	Nephritis	Cerebral hemorrhage and softening of the brain	Diabetes mellitus	Cirrhosis of the liver	Suicide	Accidents	All other
Death rate per 100,000 (adjusted)												
Professional men.....	670.5	177.0	26.2	70.3	38.8	51.4	48.3	10.9	10.8	28.8	14.5	193.5
Proprietors, managers, and officials.....	792.5	184.2	43.2	81.0	53.0	56.2	38.0	16.2	14.4	39.5	22.3	244.5
Clerks and kindred workers.....	775.2	185.5	65.8	77.7	50.5	54.1	36.8	13.5	10.2	34.6	18.7	227.8
Skilled workers and foremen.....	828.9	166.0	72.1	85.4	59.7	54.1	38.8	10.9	10.0	28.7	34.2	299.0
Semiskilled workers.....	1,009.3	199.5	102.1	90.8	71.6	59.6	41.4	13.2	10.5	41.9	34.1	344.6
Unskilled workers.....	1,447.7	243.0	184.9	106.6	135.9	83.4	58.3	12.5	17.0	44.1	51.7	510.3
All gainfully occupied.....	909.8	175.3	87.5	81.7	69.3	57.9	42.0	12.1	10.7	35.4	29.8	308.4
Agricultural workers.....	623.2	95.9	46.5	56.2	43.4	41.3	36.3	9.4	4.3	29.0	15.1	245.8
Ratio to all gainfully occupied												
Professional men.....	74	101	30	86	56	89	115	90	101	81	49	63
Proprietors, managers, and officials.....	87	105	49	99	70	97	90	134	135	112	76	79
Clerks and kindred workers.....	85	106	75	95	73	93	88	112	95	98	63	74
Skilled workers and foremen.....	91	95	82	105	86	93	92	90	93	81	116	87
Semiskilled workers.....	111	114	117	111	103	103	99	109	98	118	116	112
Unskilled workers.....	169	139	211	130	196	144	130	103	159	125	175	165

⁴In the study under discussion only occupations with 500 deaths or more were utilized for studies by cause. This includes about 80 percent of the data for all except the professional group, which included only about 35 percent and was limited to lawyers, physicians, and technical engineers.

In view of its importance in this discussion, the specific rates are given for tuberculosis of the respiratory system, together with the ratios of the rate for each occupational class to all gainfully occupied. The difference in mortality rates in the various classes is truly astounding

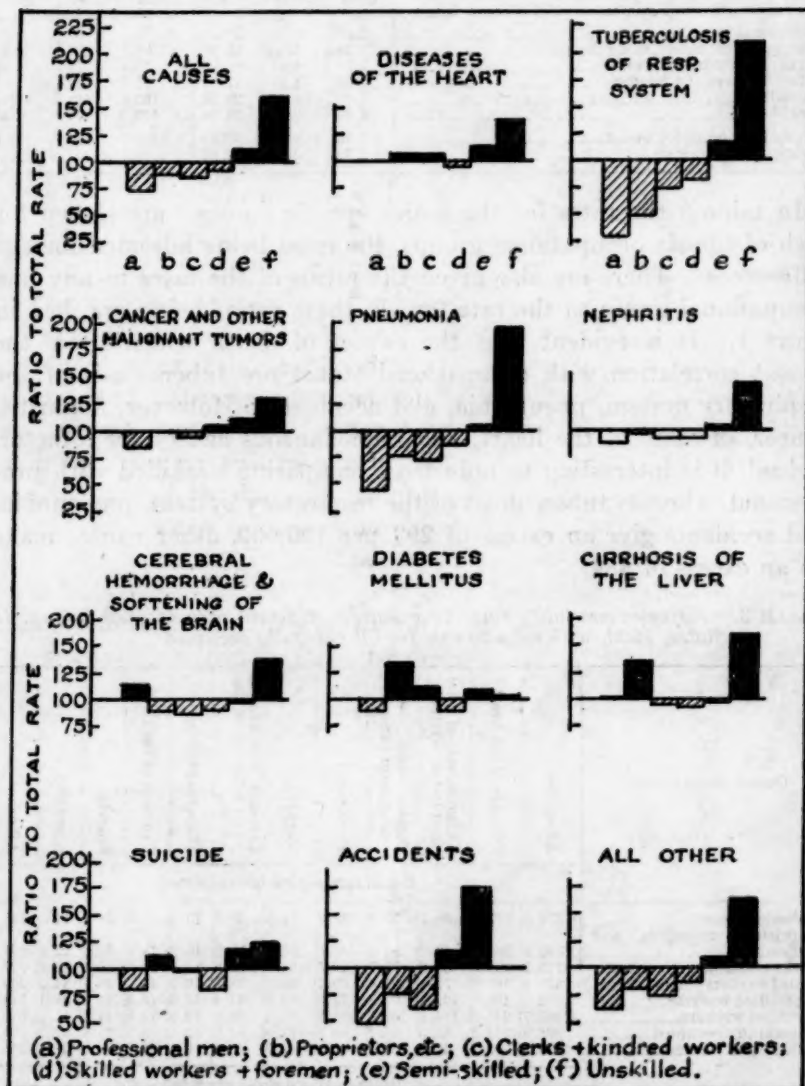


FIGURE 1.—Relative mortality in different occupational classes, by cause, 10 States, 1930

ing. Since it is also found in the age group 15-24, it can hardly be regarded as primarily due to industrial hazards. Whatever the causes—occupation, diet, low income, higher case fatality, or closer contact—the wide difference offers hope for a still further reduction in

tuberculosis mortality by a determination of the important factors and the extension of preventive measures.

TABLE 4.—*Mortality rates for tuberculosis of the respiratory system, by age, for different occupational classes, 10 States, 1930, with ratio to all gainfully occupied*

Occupational group	Rate per 100,000			Ratio to all gainfully occupied		
	15-24	25-44	45-64	15-24	25-44	45-64
Professional men.....	11.9	28.6	31.6	23	32	29
Proprietors, managers, and officials.....	37.8	38.2	55.4	72	43	51
Clerks and kindred workers.....	39.7	67.6	79.9	75	76	73
Skilled workers and foremen.....	46.0	69.0	94.7	87	78	87
Semiskilled workers.....	58.6	100.7	133.5	111	114	122
Unskilled workers.....	95.7	193.5	229.3	181	219	210
All gainfully occupied.....	52.8	88.4	109.1	100	100	100
Agricultural workers.....	29.6	45.0	60.1			

A question which arises is whether these differences could be associated with a tendency for deaths to be recorded in the lower occupational brackets when the same type of person would have been classed higher on the basis of the census returns. Perhaps the clearest evidence that this is not so is offered by the proportionate mortality figure for the three causes of death which show the sharpest relation, as given in table 5. The percentages have been based on the adjusted rates (i.e., it is the ratio of the adjusted rate for a given disease to that for all causes). Proportionate mortality may give a minimal statement of the relative difference.

TABLE 5.—*Proportionate mortality for 3 causes, by occupational class, based on adjusted rates, 10 States, 1930*

Occupational group	Percentage of deaths due to—		
	Respiratory tuberculosis	Pneumonia	Accidents
Professional men.....	3.9	5.8	2.2
Proprietors, managers, and officials.....	5.5	6.7	2.8
Clerks and kindred workers.....	8.5	6.5	2.4
Skilled workers and foremen.....	8.7	7.2	4.1
Semiskilled workers.....	10.1	7.1	3.4
Unskilled workers.....	12.8	9.4	3.6

The factor of classification, however, does prevent any satisfactory determination as to what particular occupations within a group are responsible for the high mortality rates, since certain occupations as recorded on the death certificate were not in line with the enumerator's record at the time of the census. Again, proportionate mortality here gives some assistance. In tables 6 and 7, therefore, are presented the percentages of deaths due to tuberculosis of the respiratory system and to pneumonia, respectively, in

the specific occupations. The rates are also given, but a study of them will no doubt indicate to the reader that the proportionate mortality gives a better estimate of the relative picture within the occupational group.

TABLE 6.—*Proportionate mortality from tuberculosis of the respiratory system in specific occupational groups, with rates and numbers of persons, 10 States, 1930*

Occupational group	General classification	Percentage of deaths	Rate	Number of persons
Walters.....	Unskilled.....	15.2	180.0	84,801
Servant classes, total.....	do.....	14.2	173.3	362,727
Firemen (not locomotive or fire department).....	do.....	14.1	140.9	56,554
Molders, founders, and casters (metal).....	Skilled.....	14.1	143.3	57,222
Servants and cooks.....	Unskilled.....	13.7	158.4	148,697
Operatives (excluding coal) extraction of minerals.....	do.....	13.3	130.9	49,087
Factory and building construction laborers.....	do.....	13.1	227.3	1,167,671
Chauffeurs and truck and tractor drivers.....	Semiskilled.....	11.7	92.2	456,128
Laborers in stores, etc.....	Unskilled.....	11.1	69.1	-----
Laborers, manufacturing.....	do.....	11.0	56.0	-----
Draymen, teamsters, and carriage drivers.....	do.....	10.7	165.5	41,377

TABLE 7.—*Proportionate mortality from pneumonia in specific occupational groups, with rates and numbers of persons, 10 States, 1930*

Occupational group	General classification	Percentage of deaths	Rate	Number of persons
Molders, founders, and casters (metal).....	Skilled.....	13.3	135.4	57,222
Laborers, manufacturing.....	Unskilled.....	11.2	57.2	-----
Factory and building construction laborers.....	do.....	10.2	176.7	1,167,671
Firemen (excluding locomotive and fire department).....	do.....	10.1	101.5	56,554
Janitors and sextons.....	do.....	8.7	83.8	102,893
Servants (including cooks).....	do.....	8.7	99.6	148,697
Servant classes, total.....	do.....	8.7	106.5	362,727
Laborers, steam railroad.....	do.....	8.6	58.9	140,733
Managers and officials (manufacturing).....	Professional and business.....	8.5	52.0	143,256
Bakers.....	Semiskilled.....	8.5	85.4	65,975
Brick and stone masons and tile layers.....	Skilled.....	8.4	74.2	56,075
Other operatives in extraction minerals (excluding coal).....	Unskilled.....	8.1	79.8	49,087

There is no intention at this time to make a general review of the available literature on mortality rates in different economic levels; but it should be pointed out that comparisons between ordinary and industrial policies of the Metropolitan Life Insurance Co.⁵ bear out the results of the tabulations here reviewed. In the case of tuberculosis (all forms) the ratios of industrial to ordinary for the three age groups under consideration were as follows: 15-24, 170; 25-44, 255; and 45-64, 294 (estimated from graph). Also reference should be made to certain studies by economic or occupational class which the United States Public Health Service either made or cooperated in.⁶

⁵ Lanza, A. J., and Vane, Robert J.: The Prevalence of Silicosis in the General Population and Its Effect upon the Incidence of Tuberculosis. *Am. Rev. of Tuberculosis*, vol. 29, no. 1, January 1934.

⁶ Collins, Selwyn D.: Economic Status and Health. A review and study of relevant morbidity and mortality data. *Pub. Health Bull. No. 165, 1926.*

Sydenstricker, Edgar, and Britten, Rollo H.: Physical Impairments and Occupational Class. Differential Rates Based upon Medical Examinations of 100,924 Native-born, Adult White Insured Males. *Studies in the Diseases of Adult Life No. 4.* *Pub. Health Rep.*, vol. 45, no. 34, Aug. 22, 1930. (Reprint No. 1404.)

Perrott, G. St. J., Collins, Selwyn D., and Sydenstricker, Edgar: *Sickness and the Economic Depression. Preliminary Report on Illness in Families of Wage Earners in Birmingham, Detroit, and Pittsburgh.* *Pub. Health Rep.*, vol. 48, no. 41, Oct. 13, 1933. (Reprint No. 1593.)

Also other papers.

III

As discussed earlier, the relation between economic class and mortality appears to be more marked in this country, as judged by these 10 States, than in England. For that country the most recent material available is for 1921-23.⁷ However, the mortality rates in the 10 States⁸ were 11.4 in 1921-23 and 10.9 in 1930—not more than a 4 percent decrease. The English data are for five social classes. The last 3 correspond to the last 3 of Edwards' classification. Since the first 2 (1. Upper and middle, and 2. Intermediate) are not directly comparable with the first 3 of our classification, the difficulty has been avoided by combining them into a single group, which, for want of a better term, we may call "Professional and Business." The 3 upper groups in this country will likewise be combined under the same heading. The populations in the different occupational classes are shown in table 8.

TABLE 8.—*Population by occupational class, United States, 10 States (1930), England and Wales, 1921 (age 15-64)*¹

Occupational group	Percentage		Number	
	United States	England	United States ²	England ³
Professional and business.....	35.6	21.5	4,279,510	2,358,314
Skilled trade.....	22.7	43.8	2,725,992	4,757,233
Semi-skilled.....	21.2	21.5	2,543,762	2,340,218
Unskilled.....	20.5	13.5	2,455,773	1,481,842

¹ English data for ages 16-64.

² Data by cause based on somewhat smaller populations. See footnote, p. 1103. Agricultural workers excluded.

³ Deaths cover a period of 3 years, 1921-23.

Certain differences in distribution by classification are apparent. What concerns us particularly is that the professional and business group, which may, for convenience, be taken as a base for our calculations, contains a much larger proportion in this country than in England. This is also true of the unskilled group—that is, the two extreme groups contain a larger proportion of the population than they do in England. For this reason, other factors being equal, we would expect a wider range in mortality rates in England than here. Another point to be mentioned is that in this country agricultural workers have not been included in the occupational class, whereas in England they have been. Since the mortality rates are uniquely low for agricultural workers, a difficulty would have arisen had they been classified in the English data mainly in one group. As a matter of fact, the percentage distribution was as follows: Professional and business, 31.2 percent; skilled trade, 20.2 percent; semi-skilled, 46.4

⁷ The Registrar-General's Decennial Supplement. Part II. Occupational Mortality, Fertility, and Infant Mortality. England and Wales, 1921. London, His Majesty's Stationery Office, 1927.

⁸ Alabama excluded because not in the registration area in 1921-23.

percent; and unskilled, 2.2 percent. Even in the semi-skilled group they form but 20 percent of the total number of workers. The inclusion in one case and exclusion in the other thus can be of little effect on the ratios. In the case of the unskilled workers, if anything, it tends to raise the English ratio relative to the American.

In table 9 are given the specific rates for these four occupational classes in the 10 States and in England, with the ratios of the American rates to the English.

TABLE 9.—*Mortality by occupational class, United States and England, in three age groups, with ratios of rates in United States to those in England (all causes)*

Occupational group	15-24 ¹	25-44	45-64	Average
	Death rate per 1,000			
Professional and business:				
United States.....	2.37	4.02	16.11	-----
England.....	2.59	4.77	16.27	-----
Skilled:				
United States.....	3.05	4.87	17.11	-----
England.....	2.90	4.80	16.06	-----
Semiskilled:				
United States.....	3.18	6.12	20.76	-----
England.....	3.04	5.39	16.93	-----
Unskilled:				
United States.....	4.68	9.58	24.78	-----
England.....	3.53	6.90	21.39	-----
	Ratio, United States to English			
Professional and business.....	92	84	99	92
Skilled.....	102	101	106	103
Semiskilled.....	105	114	123	113
Unskilled.....	133	139	116	129

¹ English data 16-24.

The rates for the United States for the professional and business group were consistently below those for England. For the three other occupational classes, the American rates are consistently in excess, reaching a maximum difference in the unskilled group. If the ratios for the three age groups are averaged together, they become for the four occupational classes, respectively, 92, 103, 113, and 129. If now the ratio for the professional and business class is taken as 100, the ratios for the other three classes become 112, 123, and 140, which are the figures quoted at the beginning of this paper. It is clear that the excess is approximately the same for the three age groups, though perhaps somewhat greater for the age group 25-44.

The question occurs as to what causes of death are particularly responsible for this relation. Owing to differences in classification in the two countries it is not possible to deal with the rates themselves. However, this difficulty can be eliminated by taking the ratio of the rates in each occupational class to the rate in the professional and business group.⁹ Owing to small numbers of deaths, rates were not used for the age group 15-24. The rates are given in table 10 for all

⁹ Rates for the professional and business group, which includes professional, proprietors, etc., and clerks and kindred workers were obtained by weighting these rates for these 3 groups by the number of persons in the groups as a whole, rather than by the number in the selected occupations, in order to have the rates in the different ages comparable to the English.

major causes of death that appear reasonably comparable. In table 11 are given the ratios, after averaging those obtained for the two age groups, 25-44 and 45-64. The percentage excess of the American ratios over the English is also given.

TABLE 10.—*Mortality rates, by occupational class, United States and England, ages 25-44 and 45-64, by cause*

Cause	Death rate per 100,000							
	Professional and business		Skilled workers		Semiskilled		Unskilled	
	United States	England	United States	England	United States	England	United States	England
Ages 25-44:								
Respiratory tuberculosis	51.2	128.3	69.0	139.6	100.7	147.0	193.5	199.9
Cancer	23.6	23.4	27.7	24.8	27.0	24.7	38.4	32.0
Diabetes	4.2	7.4	4.4	5.9	3.8	5.6	5.7	5.2
Cerebral hemorrhage	8.3	7.2	9.4	6.9	9.5	6.5	18.8	9.4
Diseases of heart	64.7	47.0	58.8	48.6	77.1	54.4	114.4	73.1
Pneumonia	31.7	47.7	43.1	49.2	49.2	61.5	113.0	86.2
Cirrhosis of liver	5.0	5.0	3.9	1.2	3.4	1.9	9.6	2.5
Nephritis	22.8	15.7	23.3	15.1	23.7	15.9	39.6	19.0
Suicide	28.7	19.4	23.8	34.0	30.8	12.5	38.0	14.9
Accident	15.2	26.1	27.3	34.8	24.7	45.8	44.9	42.5
All other	163.0	150.0	209.2	141.0	270.0	162.7	443.4	306.3
Ages 45-64:								
Respiratory tuberculosis	61.3	112.9	94.7	158.1	133.5	159.9	229.3	244.7
Cancer	218.6	270.1	237.3	285.3	257.7	285.2	292.6	367.3
Diabetes	39.7	33.3	28.1	18.6	36.8	13.9	30.8	12.2
Cerebral hemorrhage	116.1	109.4	114.8	102.9	123.6	100.6	163.9	113.5
Diseases of heart	493.4	253.8	448.4	226.8	530.6	242.7	613.8	292.1
Pneumonia	101.2	110.5	117.1	114.5	143.9	135.1	240.1	193.3
Cirrhosis of liver	31.7	38.7	27.3	14.7	29.8	14.6	40.3	18.2
Nephritis	142.8	87.9	138.3	72.1	154.4	64.7	208.6	78.1
Suicide	63.6	48.6	50.1	35.8	82.5	35.3	74.8	37.9
Accident	31.3	44.2	54.5	57.4	61.2	81.7	82.6	78.6
All other	404.5	517.0	436.4	520.7	573.8	560.5	769.5	702.8

TABLE 11.—*Ratio of mortality, by cause, in various occupational classes to that for professional and business, United States and England, with percentage excess in this country. Average of ages, 25-44 and 45-64*

Cause	Ratio to professional and business				Percentage excess in United States		
	Profes- sional and business	Skilled work- ers	Semi- skilled	Un- skilled	Skilled work- ers	Semi- skilled	Un- skilled
Cirrhosis of liver	United States	100	82	81	159	164	113
	England	100	31	38	48		
Tuberculosis of respiratory system	United States	100	145	208	376	16	63
	England	100	125	128	186		
Diabetes	United States	100	88	92	107	29	56
	England	100	68	59	54		
All other	United States	100	118	154	231	22	43
	England	100	97	108	136		
Pneumonia	United States	100	126	149	297	22	18
	England	100	103	126	178		
Accidents	United States	100	177	178	279	35	(¹)
	England	100	131	180	170		
Suicide	United States	100	81	118	125	14	71
	England	100	71	69	77		
Cerebral hemorrhage	United States	100	106	110	184	12	21
	England	100	95	91	117		
Nephritis	United States	100	99	106	160	11	22
	England	100	89	87	105		
Diseases of heart	United States	100	91	113	150	(¹)	11
	England	100	96	109	135		
Cancer	United States	100	113	116	148	11	9
	England	100	106	106	186		

¹ Decrease.

Cirrhosis of the liver, tuberculosis of the respiratory system, and diabetes show the most marked excess in comparison with England, but pneumonia, accidents, suicide, cerebral hemorrhage, and nephritis show nearly as marked a tendency.

It is not intended to undertake a detailed discussion of reasons for the unfavorable showing of the lower economic classes in this country in comparison with such classes in England; but since race will be the first reason to occur to the reader, it will be well to indicate the make-up of the different occupational classes with respect to this factor. Professional and business had 1.2 percent Negro; skilled workers and foremen, 1.9; semiskilled, 3.8; and unskilled, 15.5.¹⁰ Thus the Negroes are concentrated in the lowest group; but even there they constitute only 15 percent of the workers and therefore can have no great influence on the rates. With respect to immigration, it may be stated that the professional and business had 21.0 percent foreign-born; skilled workers, 31.1; semiskilled, 31.6; and unskilled, 34.4. Thus, although there is a smaller proportion of foreign-born in the professional and business group, the difference is not very great, and the percentages for the three lower groups are nearly identical.

It is suggested that other factors (such as economic status, occupation, standards of living) must be of great importance in explaining the relative excess mortality in the lower occupational groups. Many such factors come more or less within the scope of public health work in its broadest aspect.

IV

A review of a recent tabulation of mortality rates by occupational class in this country and a comparison with corresponding data for England show:

1. Mortality rates among male industrial workers are greatly in excess of those in the higher economic classes.
2. The unskilled group of workers have by far the greatest excess.
3. The differences are noted among young adults (15-24) as well as in the older ages.
4. The causes of death showing the greatest excess are tuberculosis of the respiratory system, pneumonia, and accidents, but many others play their part.
5. This differential mortality by occupational class is much more marked in this country than in England.

¹⁰ These figures are for the 10 States, 1930, males, but include all ages 10 years and over.

6. If the professional and business classes in the two countries are regarded as 100, there is a relative excess in the unskilled classes in this country, compared with England, of about 40 percent.

7. The excess is approximately the same at different industrial ages, though perhaps somewhat greater in the age group 25-44.

8. Conditions particularly outstanding in bringing about this unfavorable showing in comparison with England are cirrhosis of the liver, tuberculosis of the respiratory system, and diabetes; but many other causes also contribute to the difference, including pneumonia, accidents, suicide, cerebral hemorrhage, and nephritis.

THE WOODWORTH PERSONAL DATA SHEET AS APPLIED TO DELINQUENTS

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This study was undertaken primarily to determine the reliability of the Woodworth Personal Data Sheet as a diagnostic adjunct for eliciting psychoneurotic tendencies among delinquents. Such an aid, if proved efficient, is particularly desirable in penal and correctional institutions, where the psychiatrist is necessarily hampered by the limited time which he can allot to each subject.

The Personal Data Sheet was devised by R. S. Woodworth, professor of psychology at Columbia University (1). It consists of 116 questions designed to bring out not only psychoneurotic symptoms, but also pertinent points in the patient's family history, past medical history, childhood environment, and reactions to childhood environment. The original form includes a few questions unsuitable for female subjects. This objection is rectified by the Richmond Modification, which gives a list of substitute questions for women. Other revisions, such as the Woodworth-Cady Questionnaire, adapt the Personal Data Sheet for use with juveniles.

The test is very easy to administer; the subject is simply instructed to underline either "Yes" or "No" in reply to each question. It may be given either individually or in groups, the former method being preferred, because it secures a greater degree of cooperation and gives the subject an opportunity to inquire about doubtful or obscure questions. When it is given individually, the examiner presents the question orally, then underlines the response given by the subject.

The score is obtained by recording the total number of incorrect responses and comparing the results with Woodworth's norms, which were established by applying the questions to a number of normal individuals as well as to a group of known abnormal individuals. Woodworth found that (1) normal individuals are likely to answer 10 questions incorrectly; (2) 20 to 29 incorrect responses may be con-

sidered as evidence of a psychoneurotic tendency; (3) 30 or more wrong answers may be considered as indicative of psychoneurosis.

Closer analysis of the nature of the questions answered incorrectly often gives a clue to the type of neurosis exhibited. Thus, if the subject complains of worries, of being uneasy when going through tunnels, crossing bridges, being confined to close quarters, and in similar situations, it is highly suggestive of a psychasthenia or anxiety neurosis. Similarly, if he admits feeling tired most of the time, of waking up tired, feeling weak, etc., it indicates the presence of a neurasthenia.

The material for this investigation was obtained from the files of the United States Northeastern Penitentiary Hospital, which is under the jurisdiction of the United States Public Health Service, and is based on the responses of 800 subjects who were given the Woodworth questionnaire as a part of the routine examination during the fiscal year. The group is quite representative of the general prison population, excluding only those individuals in whom language difficulty rendered the test impractical.

The statistical data compiled in the analysis of the 800 cases examined are presented in the accompanying tables. In general, the norms obtained in this investigation are lower than those given by Woodworth and those obtained in a similar investigation by the Psychiatric Field Service of Wisconsin (2). In the latter study, 13.1 percent of the inmates of the State prison tested by the Woodworth questionnaire were found definitely psychoneurotic, as against 4.9 percent at the United States Northeastern Penitentiary. It is an interesting speculation whether this apparent disparity is due to a greater emotional stability on the part of Federal delinquents, or whether the treatment accorded Federal delinquents is more enlightened, with consequent opportunity for better institutional adjustment. It is possible that the fewer number of cases utilized in the Wisconsin study may account for the difference.

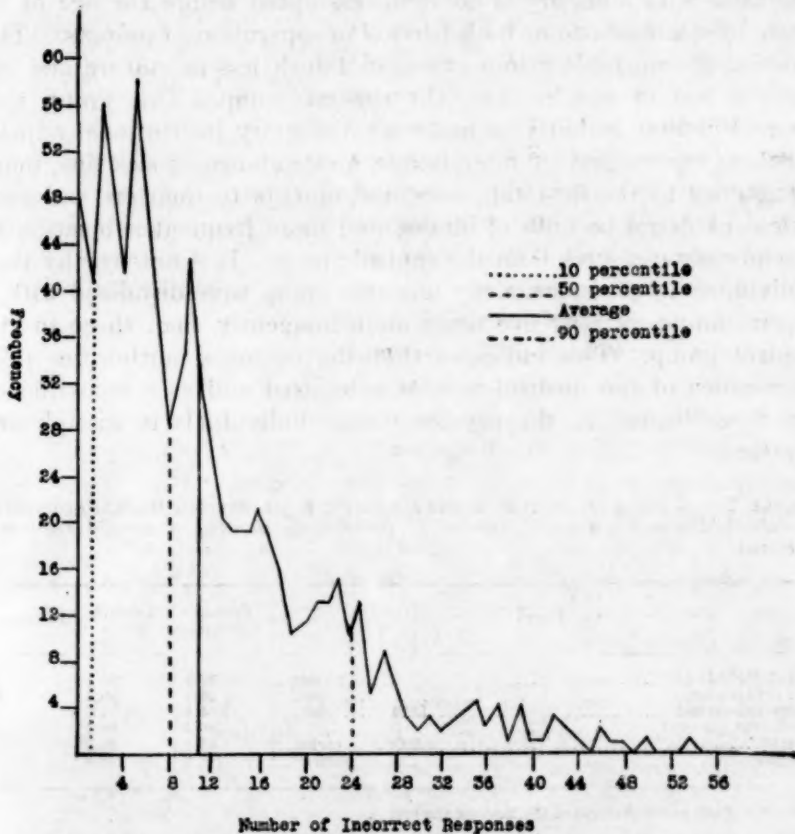
TABLE 1.—*Comparison of the norms obtained in this investigation with those obtained in the Wisconsin study*

Group	Total number of cases	10 percentile	50 percentile	90 percentile	Highest individual score	Percent found psychoneurotic
Wisconsin State prison.....	396	3	11	31	55	13.1
U.S. Northeastern Penitentiary.....	800	1	8	24	54	4.9

In determining the relative frequency with which each of the 116 questions was incorrectly answered, the most arresting observation is the response to the query, "Can you stand disgusting smells?" which leads its nearest competitor by a margin of 18.2 percent. A little subrosa investigation revealed that the explanation lies in the fear that

an admission of tolerance for offensive odors might lead to an unpleasant occupational assignment, such as the garbage detail. This serves to emphasize the fallibility of the test and the need for caution in the interpretation of results.

Considering some of the remaining questions that are relatively near the top, delinquents are apparently given to worries, do not have a well-developed sense of humor, complain of bodily pain (principally



General distribution of incorrect responses to the Woodworth questionnaire given by 800 inmates of the Northeastern Penitentiary

sacro-iliac region), and are likely to give a history of juvenile incorrigibility as exemplified by yielding to the impulse of running away from home. Frequent change of interest, indicative of instability, is seventh on the list; irritability, eighth; and ocular complaints, ninth. Intolerance for pain and the sight of blood and the inclination to blame alcoholic excesses for social maladjustment are also brought out. Essentially similar observations were made in the Wisconsin investigation.

A group of 100 individuals showing a psychoneurotic tendency, as determined by the Woodworth Personal Data sheet, were compared statistically with an equal number of individuals showing a normal emotional status. Considering a variation of 10 percent or more as significant, the emotionally unstable group included fewer individuals with a good physical rating, more individuals with minor physical ailments, more with a history of chronic alcoholism and recidivism, and more with a history of home life disrupted before the age of 16 years by death of one or both parents or separation of parents. The emotionally unstable group averaged 1 inch less in stature and 7.6 pounds less in weight than the control group. This group also showed greater inability to make a satisfactory institutional adjustment, as exemplified by more frequent attendance on sick line, more admissions to the hospital, more assignments to quarters and convalescent detail because of illness, and more frequent subjection to disciplinary measures than the control group. It is noteworthy that individuals in the emotionally unstable group were dismissed with a reprimanding warning five times more frequently than those in the control group. This indicates that the custodial authorities take cognizance of the medical reports submitted and as a consequence are more lenient in the psychoneurotic individuals in disciplinary matters.

TABLE 2.—*A group of 100 individuals showing a psychoneurotic tendency compared statistically with an equal number of individuals showing a normal emotional status*

Item	Special group	Control group	Difference
Chronological age.....years.....	32.9	33.8	0.9
Age of first offense.....do.....	26.3	29.4	3.1
Total time served.....do.....	4.8	4.1	.7
Intelligent quotient.....	86.5	88.4	1.9
Height.....inches.....	65.9	66.9	1.0
Weight.....pounds.....	148.2	155.8	7.6

NOTE.—Figures are averages of the item for the group.

Subsequent observation revealed that the findings on the Woodworth Personal Data Sheet were correct in about 85 percent of the cases. It is apparently more likely to err in failing to demonstrate the presence of a psychoneurosis than it is to indicate the presence of emotional instability unsupported by subsequent findings.

As a mathematical test of its efficiency, the total number of incorrect responses given by each individual on the 58 even-numbered questions was correlated against the total number of incorrect responses given by each individual on the 58 odd-numbered questions, utilizing the entire 800 patients examined. The reliability coefficient was found to be 0.81, with a probable error of 0.007.

In conclusion, it may be stated that the Woodworth Personal Data Sheet is quite effective in separating the psychoneurotic from the nonpsychoneurotic individuals. To be sure, it must not supersede the history and physical examination; however, if it is judiciously employed as a laboratory aid and is not regarded as an infallible instrument for the diagnosis of psychoneurosis, it proves of great value in routine institutional work.

REFERENCES

- (1) Franz, Shepherd Ivory: *Handbook of Mental Examination Methods*, p. 193. MacMillan Co., New York, 1920.
- (2) Pescor, M. J.: *The Psychoneurotic Delinquent*. *Medico-Legal Journal*, vol. 47, January-February 1930, p. 12.

COURT DECISION ON PUBLIC HEALTH

Action against city because of disposal of sewage.—(North Carolina Supreme Court; *Lightner et al. v. City of Raleigh et al.*, 174 S.E. 272; decided May 2, 1934.) An action was brought against the city of Raleigh to recover permanent damages because of injury to the plaintiffs' lands by reason of the emptying by the city of its raw sewage into a creek adjacent to the plaintiffs' land. The points of public health interest decided by the supreme court were as follows:

(a) The plaintiffs had the right to pray for permanent damages "as the property was attempted to be taken by defendants for a public purpose."

(b) There was no error in the charge given by the trial court to the jury in which it was said in part that "This action was brought on the 13th day of February 1932, and, the defendant having pleaded the statute of limitation, it is my duty to say to you, as I conceive the law to be, that the plaintiffs cannot recover any damages for anything that happened prior to February 13, 1929."

(c) Concerning what damages, if any, the plaintiffs were entitled to recover by reason of the operation and maintenance of the sewerage system, the supreme court upheld a charge of the trial court, of which the following was a part:

* * * It is the law * * * that, if you allow the plaintiffs any damages in this case, it will only be such damages as were inflicted upon the lands since February 13, 1929, up to the beginning of this action. That is, permanent damages. * * * That is, gentlemen, you will estimate what was the fair market value of these lands prior to any act of trespass on the part of the city during the past 3 years. You will then estimate what the lands were worth after the acts complained of during the past 3 years prior to the institution of this action. You will deduct the latter figure from the former and the difference between the two would be your answer to this issue.

DEATHS DURING WEEK ENDED SEPT. 1, 1934

[From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Sept. 1, 1934	Correspond- ing week, 1933
Data from 86 large cities of the United States:		
Total deaths.....	6,674	6,801
Deaths per 1,000 population, annual basis.....	9.3	9.6
Deaths under 1 year of age.....	546	532
Deaths under 1 year of age per 1,000 estimated live births.....	51	145
Deaths per 1,000 population, annual basis, first 35 weeks of year.....	11.6	11.0
Data from industrial insurance companies:		
Policies in force.....	67,373,367	67,907,473
Number of death claims.....	11,327	10,695
Death claims per 1,000 policies in force, annual rate.....	8.8	8.2
Death claims per 1,000 policies, first 35 weeks of year, annual rate.....	10.2	10.0

¹ Data for 81 cities.

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended Sept. 8, 1934, and Sept. 9, 1933

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Sept. 8, 1934, and Sept. 9, 1933

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933
New England States:								
Maine.....	4			1	5	1	1	0
New Hampshire.....						2	0	0
Vermont.....					1	1	0	0
Massachusetts.....	9	10			15	16	0	0
Rhode Island.....	4				6	1	0	0
Connecticut.....	1	3		1	8	6	0	1
Middle Atlantic States:								
New York.....	29	27	14	19	44	57	4	2
New Jersey.....	2	7	7	3	9	8	0	0
Pennsylvania.....	23	24			70	25	0	3
East North Central States:								
Ohio.....	29	27	6	7	38	6	0	0
Indiana.....	19	20	7	30	10	2	2	3
Illinois ¹	25	17	8	10	27	8	5	5
Michigan.....	4	16		2	8	10	0	0
Wisconsin.....	1	4	15	13	65	31	0	1
West North Central States:								
Minnesota.....	5	4	1	3	15	7	0	0
Iowa ¹	5	14			3		0	0
Missouri.....	21	26	37		6	4	2	1
North Dakota.....	3	4			6	10	1	0
South Dakota.....	4	2			13	2	0	1
Nebraska.....	9	7			2	2	0	1
Kansas.....	5	7	2	1	5	8	1	1
South Atlantic States:								
Delaware.....					2		0	0
Maryland ^{1,4}	4	1	77	2	1	2	1	0
District of Columbia ¹	3	5			1	1	0	0
Virginia ¹	31	37			19	22	1	2
West Virginia.....	24	49	25	21	2	47	0	1
North Carolina ¹	68	56			27	9	1	0
South Carolina ¹	3	19	127	95	13	21	0	0
Georgia ¹	22	32				15	0	0
Florida.....	17	5	1	1	8	1	1	0

Footnotes at end of table.

*Cases of certain communicable diseases reported by telegraph by State health officers
for weeks ended Sept. 8, 1934, and Sept. 9, 1933—Continued*

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933
East South Central States:								
Kentucky.....	51	26			35		0	0
Tennessee.....	25	66	29	14	11	7	1	0
Alabama.....	61	63	1	26	16	1	0	1
Mississippi.....	15	29					1	0
West South Central States:								
Arkansas.....	9	20	3	2		10	1	0
Louisiana.....	2	10	2	5	3		0	0
Oklahoma.....	5	67	18	25		3	0	0
Texas.....	38	64	36	104	27	14	0	1
Mountain States:								
Montana.....	2	2	6	1	12	1	0	0
Idaho.....	2				1		0	1
Wyoming.....	1					4	0	0
Colorado.....	4	1			3	3	0	0
New Mexico.....	1	5			1	1	0	0
Arizona.....	2		3	3	4	2	0	0
Utah.....					2	4	0	0
Pacific States:								
Washington.....	1	4			18	4	0	0
Oregon.....			8	6	3	7	0	0
California.....	14	24	12	9	22	40	1	2
Total.....	607	806	435	394	587	426	24	27

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933
New England States:								
Maine.....	0	5	10	3	0	0	0	1
New Hampshire.....	1	0	2	4	0	0	0	0
Vermont.....	1	2	8	3	0	0	1	0
Massachusetts.....	1	23	45	53	0	0	5	7
Rhode Island.....	0	1	2	3	0	0	0	1
Connecticut.....	2	6	8	10	0	0	1	3
Middle Atlantic States:								
New York.....	10	123	125	58	0	0	28	50
New Jersey.....	5	38	19	33	0	0	9	5
Pennsylvania.....	3	25	82	101	0	0	25	40
East North Central States:								
Ohio.....	15	27	138	155	1	0	68	81
Indiana.....	14	2	40	48	1	2	37	11
Illinois.....	9	8	133	128	1	0	54	49
Michigan.....	14	7	50	52	0	0	67	39
Wisconsin.....	6	0	41	16	1	6	9	1
West North Central States:								
Minnesota.....	4	25	8	23	0	0	5	0
Iowa.....	4	2	19	11	0	0	12	5
Missouri.....	0	3	32	29	0	0	43	10
North Dakota.....	1	11	5	2	0	0	3	3
South Dakota.....	3	2	1	8	0	0	19	4
Nebraska.....	0	4	14	18	3	0	4	3
Kansas.....	5	5	18	51	0	0	12	21
South Atlantic States:								
Delaware.....	0	0	1	4	0	0	2	5
Maryland.....	0	1	22	12	0	0	9	17
District of Columbia.....	0	1	8	3	0	0	2	2
Virginia.....	6	3	35	48	0	0	41	34
West Virginia.....	5	5	29	41	0	0	43	53
North Carolina.....	1	1	46	40	0	0	15	15
South Carolina.....	0	0	5	2	0	0	15	31
Georgia.....	0	0	15	7	0	0	31	21
Florida.....	0	0	2	2	0	0	0	2

Footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Sept. 8, 1934, and Sept. 9, 1933—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933	Week ended Sept. 8, 1934	Week ended Sept. 9, 1933
East South Central States:								
Kentucky.....	18	3	42	72	2	0	77	43
Tennessee.....	4	11	37	60	0	1	36	75
Alabama ¹	1	2	19	29	0	0	19	21
Mississippi.....	1	1	9	12	0	0	10	23
West South Central States:								
Arkansas.....	1	0	5	6	0	0	16	10
Louisiana.....	0	1	3	9	0	0	18	20
Oklahoma ²	0	1	4	17	0	0	23	54
Texas ³	2	1	39	28	0	4	37	65
Mountain States:								
Montana.....	36	0	1	8	0	0	8	7
Idaho.....	6	0	1	0	0	0	0	2
Wyoming.....	1	0	1	4	0	0	0	2
Colorado.....	1	2	17	5	2	1	9	19
New Mexico.....	0	0		2	0	0	7	14
Arizona.....	15	1	2	1	0	0	5	13
Utah.....	2	1	2	2	0	0	0	1
Pacific States:								
Washington.....	42	3	19	9	2	0	5	3
Oregon.....	5	1	17	10	0	3	5	4
California.....	49	3	64	69	0	2	7	13
Total.....	294	361	1,265	1,311	13	19	842	903

¹ New York City only.

² Typhus fever, week ended Sept. 8, 1934, 32 cases, as follows: Illinois, 1; South Carolina, 6; Georgia, 14; Alabama, 1; Texas, 10.

³ Week ended earlier than Saturday.

⁴ Rocky Mountain spotted fever, week ended Sept. 8, 1934, 6 cases, as follows: Maryland, 1; District of Columbia, 1; Virginia, 2; North Carolina, 2.

⁵ Exclusive of Oklahoma City and Tulsa.

SUMMARY OF MONTHLY REPORTS FROM STATES

[The following summary of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week]

State	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Ma- laria	Mea- sles	Pel- lagra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>August 1934</i>										
Arkansas.....	2	13	15	439	1	14	1	8	2	83
Connecticut.....	2	7	5	1	67		4	14	0	11
District of Columbia.....	1	18	1		1		3	21	0	3
Nebraska.....	6	30			21		2	35	2	18
Pennsylvania.....	18	115		6	1,141	5	38	462	0	117
Vermont.....		1			13		3	11	0	2

August 1934		August 1934—Continued		August 1934—Continued	
	Cases		Cases		Cases
Actinomycosis:		Mumps:		Tetanus:	
Pennsylvania.....	1	Arkansas.....	13	Connecticut.....	2
Anthrax:		Connecticut.....	32	Trachoma:	
Pennsylvania.....	1	Nebraska.....	1	Arkansas.....	13
Chicken pox:		Pennsylvania.....	466	Pennsylvania.....	3
Arkansas.....	3	Vermont.....	4	Trichinosis:	
Connecticut.....	34	Ophthalmia neonatorum:		Connecticut.....	1
District of Columbia...	3	Pennsylvania.....	7	Undulant fever:	
Nebraska.....	4	Paratyphoid fever:		Connecticut.....	1
Pennsylvania.....	222	Arkansas.....	4	Pennsylvania.....	14
Vermont.....	22	Connecticut.....	2	Vermont.....	5
Dysentery:		Rabies in animals:		Whooping cough:	
Connecticut (bacillary)...	4	Connecticut.....	1	Arkansas.....	83
Nebraska (amoebic)...	1	District of Columbia...	1	Connecticut.....	190
Pennsylvania.....	11	Rabies in man:		District of Columbia...	65
German measles:		Pennsylvania.....	1	Nebraska.....	65
Connecticut.....	8	Rocky Mountain spotted		Pennsylvania.....	2,279
Pennsylvania.....	41	fever:		Vermont.....	52
Lethargic encephalitis:		District of Columbia...	2		
Connecticut.....	3	Septic sore throat:			
Nebraska.....	14	Connecticut.....	1		
Pennsylvania.....	6	Nebraska.....	2		

EPIDEMIC ENCEPHALITIS IN CENTRAL STATES

For the week ended September 8, 1934, cases of epidemic encephalitis were reported in some of the Central States as follows: Illinois, 49 cases (Danville, Vermilion County, 17; Fulton County, 11; Peoria County, 12); Indiana, 28 (Evansville, 12); Kentucky, 8; Ohio, 20 (Toledo, 16). (See PUBLIC HEALTH REPORTS, Sept. 7, 1934, p. 1067, and Sept. 14, 1934, p. 1095.)

DENGUE IN FLORIDA

The number of new cases of dengue reported in Miami, Fla., for the week ended September 8, 1934, was 55 percent less than for the preceding week. Conditions were reported greatly improved. The estimated number of cases present at the end of the week was 1,500.

CASES OF VENEREAL DISEASES REPORTED FOR JULY 1934

[This statement is published monthly for the information of health officers in order to furnish current data as to the prevalence of the venereal diseases. The figures are taken from reports received from State health officers. They are preliminary and are, therefore, subject to correction. It is hoped that the publication of these reports will stimulate more complete reporting of these diseases]

State	Syphilis		Gonorrhea	
	Cases reported during month	Monthly case rates per 10,000 population	Cases reported during month	Monthly case rates per 10,000 population
Alabama.....	227	0.84	82	0.30
Arizona.....	24	.53	100	2.21
Arkansas ¹	371	1.98	304	1.62
California ¹	761	1.26	637	1.05
Colorado ²				
Connecticut ¹	263	1.60	207	1.26
Delaware.....	107	4.44	25	1.04
District of Columbia.....	190	3.84	110	2.22
Florida.....	387	2.49	62	.40
Georgia.....	529	1.82	404	1.39
Idaho.....	0		0	
Illinois.....	1,541	1.97	1,403	1.79
Indiana.....	270	.82	171	.52
Iowa ¹	111	.45	195	.79
Kansas ¹	124	.65	84	.44
Kentucky.....	232	.88	300	1.47
Louisiana ¹	182	.85	116	.54
Maine.....	37	.46	51	.64
Maryland.....	778	4.68	289	1.74
Massachusetts.....	291	.67	559	1.30
Michigan.....	449	.89	510	1.01
Minnesota.....	338	1.38	374	1.44
Mississippi.....	1,239	6.05	1,953	9.54
Missouri.....	512	1.40	398	1.09
Montana ¹	12	.22	47	.87
Nebraska.....	82	.37	108	.78
Nevada ¹				
New Hampshire.....	12	.26	16	.34
New Jersey.....	656	1.56	305	.73
New Mexico ¹	103	2.37	35	.81
New York.....	4,798	3.70	1,448	1.12
North Carolina.....	1,074	3.28	413	1.26
North Dakota ¹				
Ohio ¹	611	.90	252	.37
Oklahoma ¹	145	.70	139	.67
Oregon.....	61	.62	75	.76
Pennsylvania.....	287	.29	258	.26
Rhode Island.....	57	.81	35	.50
South Carolina ¹	257	1.47	293	1.68
South Dakota.....	5	.07	62	.88
Tennessee.....	952	3.57	624	2.34
Texas.....	290	.48	125	.21
Utah ¹				
Vermont.....	24	.66	42	1.16
Virginia ¹	237	.97	222	.91
Washington.....	221	1.38	217	1.36
West Virginia ¹				
Wisconsin ¹	24	.08	127	.42
Wyoming ¹				
Total.....	18,861	1.56	13,267	1.10

¹ Incomplete.

² Not reporting.

³ Have been reporting regularly, but no report received for current month.

⁴ Only cases of syphilis in the infectious stage are reported.

NOTE.—Surveys in which all medical sources have been contacted in representative communities throughout the United States have revealed that the monthly rate per 10,000 population is 6.6 for syphilis and 10.2 for gonorrhea.

WEEKLY REPORTS FROM CITIES

City reports for week ended Sept. 1, 1934

[This table summarizes the reports received regularly from a selected list of 121 cities for the purpose of showing a cross section of the current urban incidence of the communicable diseases listed in the table. Weekly reports are received from about 700 cities, from which the data are tabulated and filed for reference.]

State and city	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
Maine:											
Portland	0		0	0	0	2	0	0	0	8	10
New Hampshire:											
Concord	0		0	0	0	0	0	0	0	0	10
Nashua	0			0		5	0		0	0	
Vermont:											
Barre	0		0	0	0	0	0	2	0	0	6
Burlington	0		0	0	0	1	0	0	1	0	10
Massachusetts:											
Boston	2		0	2	14	6	0	5	1	27	156
Fall River	2		0	0	0	1	0	2	0	0	20
Springfield	0		0	0	0	0	0	2	0	0	23
Worcester	0		0	1	2	2	0	2	0	0	
Rhode Island:											
Pawtucket	0		0	0	0	0	0	0	0	0	7
Providence	0		0	7	2	1	0	2	2	11	53
Connecticut:											
Bridgeport	0	1	0	0	1	1	0	1	0	1	36
Hartford	0		0	8	2	0	0	1	0	0	43
New Haven	0		0	0	0	0	0	1	1	2	43
New York:											
Buffalo	0		0	2	8	4	0	0	1	0	100
New York	12	2	2	9	71	27	0	63	19	204	1,172
Rochester	0		0	1	5	1	0	2	0	7	62
Syracuse	0		0	1	0	1	0	0	0	35	30
New Jersey:											
Camden	1		0	0	1	0	0	1	0	1	24
Newark	0	3	0	3	0	2	0	3	1	28	76
Trenton	0		0	1	0	3	0	3	0	0	21
Pennsylvania:											
Philadelphia	3	4	1	3	30	12	0	15	4	0	543
Pittsburgh	4	1	0	4	9	8	0	8	0	37	122
Reading	0		0	1	0	1	0	1	0	11	23
Scranton	0			0		1	0		0	4	
Ohio:											
Cincinnati	2		0	2	2	3	0	11	4	5	130
Cleveland	4	0	0	3	5	6	0	6	3	30	100
Columbus	1		0	0	4	12	0	4	3	30	94
Toledo	0		0	3	5	2	0	2	1	12	60
Indiana:											
Fort Wayne	0		0	0	2	1	0	0	0	0	31
Indianapolis	0		0	2	11	3	0	4	0	7	
South Bend	0		0	1	0	1	0	1	2	0	14
Terre Haute	0		0	0	0	0	0	0	0	0	14
Illinois:											
Chicago	0	1	1	14	20	44	0	20	6	42	562
Springfield	0		0	0	1	0	0	0	0	5	20
Michigan:											
Detroit	2	3	0	4	7	10	0	17	6	36	109
Flint	0		0	1	0	5	2	1	0	1	21
Grand Rapids	0		0	0	0	2	0	1	0	0	33
Wisconsin:											
Kenosha	0		0	3	0	0	0	0	0	7	7
Madison											
Milwaukee	1		0	8	2	8	0	9	0	30	72
Racine	0		0	0	0	3	0	0	0	11	16
Superior	0		0	0	0	0	0	0	0	0	10
Minnesota:											
Duluth											
Minneapolis	2		1	4	1	5	0	0	0	4	86
St. Paul	1		0	0	3	0	0	1	0	18	43
Iowa:											
Davenport	0			0		0	0		0	0	
Des Moines	0		0	0	0	0		1	0	0	30
Sioux City	1			0		0	0		1	4	0
Waterloo	1			0		1	0		0	2	
Missouri:											
Kansas City	2		0	0	4	4	0	2	0	0	85
St. Joseph	3		0	0	0	1	0	0	0	0	9
St. Louis	5		0	0	4	1	0	10	4	11	115

City reports for week ended Sept. 1, 1934—Continued

State and city	Diph- theria cases	Influenza		Mea- sles cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
North Dakota:											
Fargo.....	0		0	0	2	0	0	0	0	10	7
Grand Forks.....	0			0		0	0		0	0	
South Dakota:											
Aberdeen.....	0			0		1	0		0	1	
Nebraska:											
Omaha.....	5		0	0	1	3	0	2	0	3	54
Kansas:											
Topeka.....	2		0	0	1	0	0	0	0	2	11
Wichita.....	0		0	0	1	0	0	0	1	0	20
Delaware:											
Wilmington.....	1		0	0	0	0	0	0	0	6	31
Maryland:											
Baltimore.....	1	4	0	2	9	5	0	9	0	38	151
Cumberland.....	0		1	0	2	0	0	0	0	0	15
Frederick.....	0	1		0	1	0	0	0	0	0	
District of Columbia:											
Washington.....	2	2	2	0	8	4	0	9	1	13	153
Virginia:											
Lynchburg.....	0		0	0	0	0	0	0	3	8	8
Norfolk.....	0		0	0	2	2	0	1	0	4	30
Richmond.....	1		0	0	0	2	0	2	3	2	45
Roanoke.....	4		0	0	0	0	0	0	1	2	9
West Virginia:											
Charleston.....	0		0	1	0	1	0	0	4	0	13
Huntington.....	3			0		1	0		0	0	
Wheeling.....	1		0	0	0	3	0	0	0	2	18
North Carolina:											
Raleigh.....	1		0	0	1	0	0	0	0	1	11
Wilmington.....	1		0	0	1	0	0	0	0	1	13
Winston-Salem.....	4		0	0	0	2	0	1	0	12	13
South Carolina:											
Charleston.....	0	10	0	0	4	0	0	0	0	1	18
Columbia.....	0	0	0	0	0	0	0	0	0	0	9
Greenville.....	0		0	0	0	0	0	0	1	0	20
Georgia:											
Atlanta.....	0	19	0	2	1	1	0	6	0	2	70
Brunswick.....	0		0	1	0	0	0	0	0	0	5
Savannah.....	1		0	0	0	0	0	1	0	1	27
Florida:											
Miami.....	1		0	0	2	1	0	4	1	0	28
Tampa.....	1	1	1	0	0	0	0	0	0	1	21
Kentucky:											
Ashland.....	2		0	0	0	0	0	0	2	0	
Lexington.....	1		0	0	0	1	0	0	0	0	18
Tennessee:											
Memphis.....	2		0	0	6	1	0	1	0	16	72
Nashville.....	0		0	1	2	2	0	1	3	11	46
Alabama:											
Birmingham.....	5		0	0	2	2	0	3	5	6	47
Mobile.....	4		0	0	1	0	0	4	0	0	23
Montgomery.....	2	1	0	0	0	0	0	0	0	0	
Arkansas:											
Fort Smith.....	0			0		0	0		0	1	
Little Rock.....	0		0	0	1	0	0	1	0	0	
Louisiana:											
New Orleans.....	10	1	1	3	6	6	0	8	8	0	132
Shreveport.....	0		0	0	0	2	0	1	0	2	13
Oklahoma:											
Tulsa.....	0			0		0	0		7	1	
Texas:											
Dallas.....	3		0	0	4	0	0	1	0	2	48
Fort Worth.....	1		0	1	0	1	0	3	0	1	24
Galveston.....	0		0	0	2	0	0	0	0	0	8
Houston.....	4		0	1	6	0	0	2	4	0	72
San Antonio.....	1		0	0	1	1	0	6	0	0	54
Montana:											
Billings.....	0		0	1	0	0	0	0	0	0	8
Great Falls.....	0		0	1	0	0	0	0	0	2	5
Helena.....	0		0	0	0	0	0	0	0	0	3
Missoula.....	0		0	0	1	0	0	0	0	0	9

City reports for week ended Sept. 1, 1934—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Small-pox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Idaho:											
Boise.....	0		0	0	1	0	0	0	0	0	8
Colorado:											
Denver.....	4	23	1	3	3	7	0	7	0	12	79
Pueblo.....	0		0	0	0	1	0	0	1	0	8
New Mexico:											
Albuquerque.....	0	1	1	0	0	0	0	0	0	1	9
Utah:											
Salt Lake City.....	0		0	2	1	6	0	0	0	34	21
Nevada:											
Reno.....	0		0	0	0	0	0	0	0	0	1
Washington:											
Seattle.....	0		0	2	4	1	0	3	0	20	87
Spokane.....	0		0	1	0	1	1	0	2	2	21
Tacoma.....	0		0	0	2	0	0	0	0	2	32
Oregon:											
Portland.....	0		0	1	1	10	0	1	0	2	70
Salem.....	0			0		0	0		0	0	
California:											
Los Angeles.....	13	4	0	2	4	8	0	13	0	19	211
Sacramento.....	0		0	1	0	5	0	1	0	5	22
San Francisco.....	0	2	3	5	5	9	0	12	0	4	149

State and city	Meningococcus meningitis		Polio-myelitis cases	State and city	Meningococcus meningitis		Polio-myelitis cases
	Cases	Deaths			Cases	Deaths	
Maine:				West Virginia:			
Portland.....	0	0	1	Huntington.....	0	0	1
New York:				North Carolina:			
New York.....	2	1	6	Winston-Salem.....	0	1	0
Rochester.....	0	0	2	Kentucky:			
New Jersey:				Lexington.....	1	1	1
Camden.....	0	0	2	Tennessee:			
Newark.....	0	0	1	Memphis.....	0	0	1
Pennsylvania:				Nashville.....	1	0	0
Philadelphia.....	0	0	3	Alabama:			
Pittsburgh.....	0	1	2	Birmingham.....	0	0	2
Ohio:				Texas:			
Cincinnati.....	0	1	3	Dallas.....	0	0	1
Cleveland.....	1	1	2	Houston.....	0	0	7
Indiana:				Montana:			
Indianapolis.....	1	0	0	Billings.....	0	0	6
Illinois:				Great Falls.....	0	0	12
Chicago.....	4	2	5	Helena.....	0	0	7
Michigan:				Missoula.....	0	0	2
Detroit.....	0	0	4	Colorado:			
Flint.....	0	0	1	Denver.....	1	0	1
Grand Rapids.....	0	0	1	Washington:			
Wisconsin:				Seattle.....	0	0	8
Superior.....	0	0	1	Spokane.....	0	0	14
Minnesota:				Oregon:			
St. Paul.....	0	0	1	Portland.....	0	0	1
Missouri:				California:			
St. Louis.....	1	0	0	Los Angeles.....	0	0	27
North Dakota:				San Francisco.....	0	0	2
Fargo.....	1	0	0				
Kansas:							
Topeka.....	0	0	1				

Dengue.—Cases: Savannah, 2; Miami, 120; Tampa, 2; San Francisco, 1.

Lethargic encephalitis.—Cases: Portland, Maine, 1; Columbus, 2; Toledo, 4; St. Louis, 2; Birmingham, 1.

Psittacosis.—Cases: Winston-Salem, 1; Charleston, S.C., 1; Miami, 1.

Rabies in man.—Deaths: Seattle, 1.

Typhus fever.—Cases: Charleston, S.C., 3.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—2 weeks ended August 25, 1934.—During the 2 weeks ended August 25, 1934, cases of certain communicable diseases were reported by the Department of Pensions and National Health of Canada, as follows:

Disease	Prince Edward Island	Nova Scotia	New Brun- swick	Quebec	Onta- rio	Mani- toba	Sas- katch- ewan	Alber- ta	British Colum- bia	Total
Cerebrospinal meningitis.....							1	1	1	3
Chicken pox.....		2		22	56	15	25	13	3	136
Diphtheria.....		1	4	28	4	10	5		1	53
Dysentery.....		3			1		1			5
Erysipelas.....		3		8	3	1		4	2	21
Influenza.....		6		1	1	1			6	15
Measles.....		3	5	77	21	49	20	10	2	187
Mumps.....					29	8	5	1	14	57
Paratyphoid fever.....		2			12					14
Pneumonia.....	5	1			3		3		1	13
Poliomyelitis.....				18	27			1	3	49
Scarlet fever.....		8	2	70	49	19	13	5	34	206
Smallpox.....									1	1
Trachoma.....							1		1	2
Tuberculosis.....	6		18	84	67	4	4	1	21	205
Typhoid fever.....			5	31	52	14	7	3	6	118
Undulant fever.....		2			5					7
Whooping cough.....		5		397	240	2	27	13	32	716

Quebec Province—Communicable diseases—2 weeks ended August 25, 1934.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the 2 weeks ended August 25, 1934, as follows:

Disease	Cases	Disease	Cases
Chicken pox.....	22	Poliomyelitis.....	18
Diphtheria.....	28	Puerperal septicemia.....	2
Erysipelas.....	8	Scarlet fever.....	76
German measles.....	2	Tuberculosis.....	84
Influenza.....	1	Typhoid fever.....	31
Measles.....	75	Whooping cough.....	397

CUBA

Provinces—Notifiable diseases—5 weeks ended June 30, 1934.—During the 5 weeks ended June 30, 1934, cases of certain notifiable diseases were reported in the Provinces of Cuba, as follows:

Disease	Pinar del Río	Habana	Matanzas	Santa Clara	Camaguey	Oriente	Total
Cancer.....	1	1	—	8	5	—	15
Chicken pox.....	1	3	—	1	3	7	15
Diphtheria.....	—	13	3	—	—	2	18
Hookworm disease.....	2	2	1	3	—	2	10
Leprosy.....	—	—	—	4	2	7	13
Malaria.....	214	37	57	201	69	1,694	2,272
Measles.....	—	13	—	4	—	—	17
Scarlet fever.....	—	1	—	—	—	—	1
Tuberculosis.....	3	33	9	42	6	8	101
Typhoid fever.....	3	18	23	74	64	29	211

CZECHOSLOVAKIA

Communicable diseases—June 1934.—During the month of June 1934 certain communicable diseases were reported in Czechoslovakia, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	4	—	Paratyphoid fever.....	30	1
Cerebrospinal meningitis.....	—	4	Polio-myelitis.....	2	1
Chicken pox.....	241	—	Puerperal fever.....	37	16
Diphtheria.....	1,878	119	Scarlet fever.....	2,435	18
Dysentery.....	63	4	Trachoma.....	147	—
Influenza.....	33	3	Typhoid fever.....	447	37
Lethargic encephalitis.....	2	2	Typhus fever.....	20	—
Malaria.....	1,370	2			

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

(NOTE.—A table giving current information of the world prevalence of quarantinable diseases appeared in the PUBLIC HEALTH REPORTS for Aug. 31, 1934, pp. 1037-1049. A similar cumulative table will appear in the PUBLIC HEALTH REPORTS to be issued Sept 28, 1934, and thereafter, at least for the time being, in the issue published on the last Friday of each month.)

Cholera

India—Rangoon.—During the week ended September 1, 1934, one case of cholera was reported in Rangoon, India.

Plague

Argentina.—During the month of August 1934, plague was reported in Argentina, as follows: 1 case with 1 death at Bahia Blanca, Buenos Aires Province; 1 case of septicemic plague with 1 death at Chamental, Jujuy Province; 4 cases of pneumonic plague with 4 deaths at Santa Rosa, San Luis Province.

Typhus fever

Palestine—Jaffa.—During the week ended September 1, 1934, one case of typhus fever was reported in Jaffa, Palestine.

Syria—Beirut.—During the week ended August 4, 1934, one case of typhus fever was reported in Beirut, Syria.

Yellow fever

Brazil—Ceara State—Santa Quiteria.—On June 25, 1934, 1 case of yellow fever with 1 death was reported in Santa Quiteria, Ceara State, Brazil.

Gold Coast—N'Kawkaw.—On July 8, 1934, one case of yellow fever was reported in N'Kawkaw, Gold Coast.

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